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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/738,383

12/16/2003

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EXAMINER

NOORISTANY, SULAIMAN

ART UNIT

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2146

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/738,383	Applicant(s) NAIK ET AL.	
	Examiner SULAIMAN NOORISTANY	Art Unit 2146	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/29/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

Detailed Action

This Office Action is response to the application (10/738383) filed on 16 December 2003.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-11, 13-25, 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Perlman** U.S Patent No. **US 5,079,767** in view of **Wang** US Patent No. **US 6,538,997**.

Regarding claims 1, Perlman a method for distributing multicast traffic in a layer 2 network, said method comprising:

forming a multicast distribution tree based on a spanning tree defined **(all of the nodes in the corresponding multicast range by distributing the multicast messages along the unique set of pathways, e.g., the multicast spanning tree corresponding to the groups containing the nodes in the range – Col. 11, lines 62-66)**; and

forwarding multicast traffic via said multicast distribution tree (**Fig. 7, unit 726 – send “*here is same as forward*” to all end node neighbors**).

With respect to claims 1, Perlman teaches the invention set forth above except for the claimed “*within said layer 2 network.*”

Wang teaches that is well known to form a multicast distribution tree based on a spanning tree defined within said layer 2 networks (**Fig. 4**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Perlman’s invention by utilizing an identifier of the layer-2 intermediate node. The data may include a medium access control (MAC) address of the layer-2 intermediate node. The data may also include a number corresponding to a time at which the packet traversed through the layer-2 intermediate node. In addition the packet has a layer-2 payload that includes an address corresponding to a node in the set of destination nodes. Furthermore, the address corresponding to a node in the set of destination nodes includes a logical link control address assigned to a bridge spanning tree protocol. The address corresponding to a node in the set of destination nodes includes a MAC address, according to another aspect of the invention. The MAC address may include a unicast address or a multicast address, as taught by Wang.

Regarding claims 2, Perlman and Wang together taught a method for operating a node in a layer 2 network to handle multicast traffic, as in claim 1.

said method comprising:

Perlman further teaches wherein receiving (**Fig. 7, unit 710- receive message**),

via a first port (**obvious to receive message via a port, see Fig. 5**), a join message for a multicast distribution group (**the multicast spanning tree corresponding to the groups containing the nodes in the range. Preferably, the showering of multicast messages to all nodes in the corresponding multicast range follows the procedures outlined in the flow diagram of FIG. 7**);

establishing state information for said multicast distribution group if such state information has not already been established (**each node prepares a packet of information designated as a "link state packet – Col. Col. 2, lines 61-62; Fig. 3, unit 350 – link state packet database**); and

adding said first port to a port list associated with said state information, said port list being used to select ports for forwarding received multicast traffic of said multicast distribution group (**Fig. 3, unit 340 -- update**).

Regarding claims 3, Perlman and Wang together taught a method for operating a node in a layer 2 network to handle multicast traffic, as in claims above.

Wang further teaches wherein forwarding said join message toward a root bridge of said layer 2 network (**Fig. 4 shows a logical structure of a bridge that includes layer-2 trace logic**).

Regarding claim 6, Perlman and Wang together taught a method for operating a node in a layer 2 network to handle multicast traffic, as in claims above.

Wang further teaches wherein forwarding said join message via one or more ports via

which an attraction point

advertisement message was previously received (**Fig. 2 -- a port on the node at which trace packet 123 was received, the port on node from which layer-2 trace packet was transmitted – Col. 4, lines 18-20**).

Claims 4-5, 12, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Perlman** U.S Patent No. **US 5,079,767** in view of **Wang** US Patent No. **US 6,538,997** further in view of **Wils** U.S Patent No. **US 6,570,881**.

Regarding claims 4, Perlman and Wang together taught a method for operating a node in a layer 2 network to handle multicast traffic, as in claims above.

However, Perlman and Wang are silent in terms of wherein said join message comprises an IGMP Join message.

Wils teaches that is well known to have wherein said join message comprises an IGMP Join message (**IGMP -- Col. 2, lines 56-57**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Perlman's invention by adding IGMP, the address allows communication with a group of receivers and must be mapped onto the data-link layer multicast address where they exist. In the IP address space, Class D is reserved for multicast traffic, and the Internet Group Management Protocol (IGMP), is used by hosts and routers that support multicasting. It lets all the systems on a physical network know which hosts currently belong to which multicast group. This information is required by

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the multicast routers, so they know which multicast datagrams to forward onto which interfaces, as taught by Wils.

Regarding claim 5, Perlman and Wang together taught a method for operating a node in a layer 2 network to handle multicast traffic, as in claims above.

Wils further teaches wherein flooding said join message via a spanning tree of said layer 2 network (**Spanning tree, TCMP, IGMP, and GARP packets are flooded – Col. 2, lines 56-57**).

Claims 7-14 have the similar limitation as those claims 1-6; therefore, it's rejected under the same rationale as in claim 1-6.

Claims 15-28 have the similar limitation as those claims 1-6; therefore, it's rejected under the same rationale as in claim 1-6.

Claims 29-30 have the similar limitation as those claims 1-6; therefore, it's rejected under the same rationale as in claim 1-6.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sulaiman Nooristany whose telephone number is (571) 270-1929. The examiner can normally be reached on M-F from 9 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu, can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sulaiman Nooristany 04/16/2008

/Joseph E. Avellino/

Primary Examiner, Art Unit 2146